PEACE/WILLISTON
FISH & WILDLIFE
COMPENSATION
PROGRAM

BC hydro

BRITISH
COLUMBIA

Peace/williston Fish and Wildlife Compensation Program Annual Report 1997/98

M. D. Wood and B. G. Blackman
May 1998

PWFWCP Report No. 181

105-01548/

The Peace/Williston Fish & Wildlife Compensation Program is a cooperative venture of BC Hydro and the provincial fish and wildlife management agencies, supported by funding from BC Hydro. The Program was established to enhance and protect fish and wildlife resources affected by the construction of the W.A.C. Bennett and Peace Canyon dams on the Peace River, and the subsequent creation of the Williston and Dinosaur Reservoirs.

Peace/Williston Fish and Wildlife Compensation Program, 1011 Fourth Ave. 3rd Floor, Prince George B.C. V2L 3H9

Website: *www.bchydro.bc.ca/environment/initiatives/pwcp/*

This report has been approved by the Peace/Williston Fish and Wildlife Compensation Program Fish Technical Committee.

Citation: M. D. Wood and B. G. Blackman. May 1998. Peace/Williston Fish and Wildlife Compensation Program Annual Report 1997/98. Peace/Williston Fish and Wildlife Compensation Program, Report No. 181. 17pp.

Author(s): Mari D. Wood[1] and Brian G. Blackman[1]
Address(es): [1] Peace/Williston Fish and Wildlife Compensation Program, 1011 Fourth Ave., 3rd Floor Prince George, B.C. V2L 3H9

PEACE/WILLISTON FISH AND WILDLIFE COMPENSATION PROGRAM

ANNUAL REPORT 1997/98

STEERING COMMITTEE:

Ted Down (B.C. Environment) - Chairman
Ron Fernandes (B.C. Hydro)
Colin Gurnsey (B.C. Hydro)
Al Sanderson (B.C. Environment)

FISH TECHNICAL COMMITTEE:

Bob Westcott (BC Hydro) - Chairman
Nick Baccante (BC Environment)
Don Cadden (BC Environment)
Carol Lamont (BC Hydro)

WILDLIFE TECHNICAL COMMITTEE

Ed Hill (B.C. Hydro) - Chairman
Alan Chan-McLeod (B.C. Hydro)
John Elliott (B.C. Environment)
Doug Heard (B.C. Environment)

FISH BIOLOGISTS:

Brian Blackman (BCE) - Program Biologist
Arne Langston (BC Hydro)
Randy Zemlak (BC Hydro)

WILDLIFE BIOLOGISTS:

Mari Wood (B.C. Hydro) - Program Biologist
Fraser Corbould (B.C. Hydro)

TABLE OF CONTENTS

	Page
FISH PROGRAM	1
Program Administration	2
Program Planning	2
Public Consultation	2
Project Summaries	2
Inventory/Assessment Projects	2
Enhancement Projects	4
Monitoring/Evaluation Projects	6
Financial Summary	7
Outside Funding	8
WILDLIFE PROGRAM	9
Program Administration	10
Program Planning	10
Public Consultation	10
Project Summary	11
Public Awareness Projects	12
Inventory/Assessment Projects	12
Enhancement Projects	13
Monitoring/Evaluation Projects	13
Other Projects	14
Cooperative Projects	14
Financial Summary	15

FISH PROGRAM

Brian Blackman

PROGRAM ADMINISTRATION

Brian Blackman and Arne Langston continued as full time biologists responsible for administering, managing and conducting research and enhancement projects within the Fisheries Program of the Peace / Williston Fish and Wildlife Compensation Program (PWFWCP) in 1997/98. Randy Zemlak provided full time technical support for the program. Various consulting firms, contractors and individuals were employed to undertake work on a variety of projects. Administrative activities of the Program biologists included preparation of the 1996 / 97, Annual Report and the Quarterly Reports, project accounting and contract management.

PROGRAM PLANNING

Two Technical Committee meetings and one conference call were held to discuss the 1997/98 projects, finances and prepare a budget for the 1998/99 Fisheries Program, which was submitted to the Steering Committee for approval.

PUBLIC CONSULTATION

Presentations and Meetings

No large Public meetings were held this year. The were two radio programs originating in Mackenzie where compensation projects were discussed.

Natureline/Information Dissemination

No Natureline was produced this year. Bound copies of reports from previous years were produced for distribution to various agencies, and three information bulletins (Dina Creek and Dina Lake #3 Habitat Improvement and Simpson Lake Transplant) were produced.

PROJECT SUMMARIES

INVENTORY/ASSESSMENT PROJECTS

1. TABLE/ANZAC ARCTIC GRAYLING

Objective: To gather life history information on Arctic grayling and determine enhancement opportunities in two physically similar watersheds. The Table River was an historically important system for Arctic grayling, but intensive industrial activities and road access has resulted in declines in the population. The Anzac River is relatively pristine and supports a good population of Arctic grayling but timber harvesting is just being initiated in this drainage. These

systems will be used to provide long-term baseline information, as recommended in the Arctic grayling Enhancements Review prepared for the Compensation Program by Dr. T. Northcote. This information will be used to evaluate enhancement and habitat protection issues.

This project determined habitat utilization, distribution and relative growth rates of young of the year and adult Arctic grayling in the Table and Anzac rivers. Age class distribution, verification of ageing techniques and genetic samples were also collected. Arctic grayling fry were found primarily in low velocity, shallow near shore habitats of the mainstem and in isolated pools and backchannels. Mature adults we found in the upper mainstem and habitat utilization appeared to be governed by feeding locations rather than protective cover. Ageing verification comparing fin ray and scale ages found that 90% of the older individuals were aged within one year, but fin ray ages tended to be older. Additional funding ($144,000) was provided for this project through Forest Renewal B.C.

2. ARCTIC GRAYLING RADIO-TRACKING

Objective: To locate and document the spawning areas of Arctic grayling summering in the Table and Anzac rivers, and to conduct detailed habitat evaluations of the spawning areas.

Arctic grayling were tracked through radio telemetry for a period of thirteen months. Migrations to overwintering areas, overwinter habitat utilization, migrations to spawning areas and migrations to summer feeding areas were all documented. The greatest distance travelled was 245 km, fish moved out of the Table River in September and out of the Anzac River in October to overwinter in the Parsnip River. A number of fish moved to the Reservoir, but did not return to spawn. Approximately 30% (5 of 18) of the grayling appear to have spawned in rivers other than where they were tagged. Spawning coincided with spring freshet conditions and as such it was impossible to obtain detailed information on spawning habitat. However, detailed information was gathered on the distribution of newly hatched fry in both systems. Additional funding ($100,000) was provided for this project through Forest Renewal B.C.

3. GRAYLING GENETICS STUDY

Objective: To examine the genetic structure and degree of similarity of grayling populations within the Williston Reservoir watershed.

Genetic samples were collected from five rivers within the watershed, from two rivers in the Peace River drainage downstream from the Reservoirs and two samples were obtained from Alaska. Initial analysis showed no distinct differences between B.C. populations. However, more analysis using mitochondrial and microsatellite DNA markers will be necessary before this is conclusive.

4. ANZAC RIVER INVENTORY

Objective: To conduct habitat and species inventory work on the Anzac River and its tributaries, with particular emphasis on Arctic grayling populations and habitat utilization.

Outside funding for this project was not available and therefore the project did not go ahead.

5. STREAM ACCESS SURVEYS

Objective: To determine if fish access to streams flowing into Williston Reservoir is impaired at low reservoir water levels.

The surveys were completed on 237 streams entering the Reservoir. Twenty six were identified as having possible fish access problems. In seventeen of these, the access problems resulted from debris accumulations at the high water level. In the remaining nine streams, access problems were the result of natural gradient problems, or culverts at or above the high water mark. A brief report with a map and recommendations as to rectify these problems has been completed.

6. MESILINKA RIVER WATERSHED INVENTORY

Objective: To conduct a fisheries inventory of the entire Mesilinka River watershed to document distribution, abundance, habitat preference and length / size at age of sportfish species.

This work has been completed and copies of the report are on file. Funding ($40,000) for this Project was provided by Forest Renewal BC.

ENHANCEMENT PROJECTS

7. PROJECT MAINTENANCE

Objective: To maintain the Windy Point Upwelling station and Dina Creek spawning habitat improvement projects.

Windy Point required minimal maintenance (installation and removal of the pump) and a pumper truck was used to remove accumulated sediment from settling pools created in Dina Creek.

8. MESLINKA RIVER FERTILIZATION

Objective: To determine the effectiveness of low level inorganic fertilization (N and P) as a technique to increase the size at age and standing biomass of rainbow trout, Arctic grayling , bull trout and mountain whitefish in an oligotrophic northern river.

The last year of the experimental fertilization has been completed as planned and summary reports are being prepared as part of the 1998 project along with continued fertilization.

9. STOCKING AND KOKANEE PRODUCTION

Objective: To provide funds to cover the cost incurred by the Ministry of Fisheries for carrying out specific fish stocking projects of the Peace/Williston Fish and Wildlife Compensation Program which are not covered by the Provincial Stocking Program budget.

Approximately 400,000 kokanee were released into four watershed streams (Nation, Manson, Carbon and Davis) this year. In addition 30,000 brook trout were released into four lakes and 100,000 rainbow trout were released into fourteen lakes.

10. CARBON CREEK SIDE CHANNEL

Objective: To capture mature kokanee in the Carbon Creek embayment and in the W.A.C. Bennett dam intake towers. The mature kokanee were then transported to the side channel to provide initial seeding and to act as an attractant to other kokanee.

Four beaver dams in the channel were breached prior to the kokanee spawning migration and a fish fence was installed. Trap and gill netting in the embayment, river mouth and intake towers met with limited success as only 31 kokanee were captured and transported to the channel. Indications are that good numbers of kokanee were present in the embayment and lower river this year but it does not appear that these fish travelled upstream as far as the sidechannel. An evaluation of the sidechannel will take place in 1998 and recommendations for future stocking will be prepared.

11. GETHING BULL TROUT TRANSPLANT

Objective: To transplant and monitor adult bull trout into habitat upstream from a series of impassable falls in order to provide improved spawning and rearing capabilities for this species in Dinosaur Reservoir. This is expected to establish a resident population of bull trout in Gething Creek, whereby a percentage of annual production will remain in the creek and a percentage will migrate to Dinosaur Reservoir contributing to the sport fishery.

Nine female and five male bull trout were captured below Gething Creek falls, released to spawn in the upper river, recaptured after they had spawned and returned to Dinosaur Reservoir.

12. SIMPSON LAKE TRANSPLANT

Objective: To transplant wild rainbow trout into a barren headwater lake in the Pine River system. This lake has spawning and rearing habitat and should provide a wild, self-sustaining population within a few years.

Seventy-five wild rainbow trout were captured and transported to the lake with the assistance of the Chetwynd Rod and Gun Club. An onsite meeting, by a multi-disciplinary team was held to discuss future access management to the lake.

13. DINA LAKE #3 SPAWNING HABITAT CREATION

Objective: To create a sufficient amount of suitable spawning habitat to allow for the development of a self sustaining naturalized rainbow trout population.

Biology students from the Mackenzie Secondary School assisted in this spawning habitat improvement project this spring and an additional 125 gravel bags were transported to the site during the winter by volunteers from the Mackenzie Snowmobile Club.

14. MACKENZIE SCHOOLS KOKANEE REARING

Objective: To assist with a program to raise kokanee in a classroom environment in schools in Mackenzie and Hudson's Hope as an educational tool.

Aquariums have been set up, eggs delivered and presentations made to three schools in Mackenzie and one in Hudson's Hope for this classroom incubation and rearing project.

15. DINOSAUR RESERVOIR AQUATIC PLANT TRANSPLANT

Objective: To evaluate the potential for developing an aquatic plant community in the shoal areas of Dinosaur Reservoir. This would provide food and cover for fish species in the reservoir and would provide a significant improvement in the entrainment problems

16. BULLRUN AND PORTAGE CREEK DIVERSION

*This project was not undertaken because of funding shortfalls.

Objective: To conduct a feasibility study to determine if two small streams entering the Peace River just below the Peace Canyon Dam could be diverted to flow into Dinosaur Reservoir. If successful, this diversion would provide much needed spawning and rearing habitat for fish species using the Reservoir.

Rainbow trout genetic samples were collected from Bullrun and Portage creeks. The analysis of these samples showed that a portion of the rainbow trout populations in these systems were of hatchery origin. This information alleviates genetic concerns about diverting the streams. Thermographs and discharge tests have been conducted on the streams.

MONITORING/EVALUATION PROJECTS

17. DINOSAUR RESERVOIR HABITAT IMPROVEMENT EVALUATION

Objective: To evaluate the success of rearing habitat improvement structures placed near the mouth of Johnson Creek in 1994/95.

Surveys conducted in the enhanced area found that the habitat improvement structures had been buried in silt washed down from Johnson Creek.

18. WINDY POINT LAKE UPWELLING STATION EVALUATION

Objective: To evaluate the success of the upwelling station in relieving a chronic spawnbound problem in Windy Point Lake.

Results of the evaluation suggest that the upwelling station has not been completely successful at alleviating the spawnbound problem.

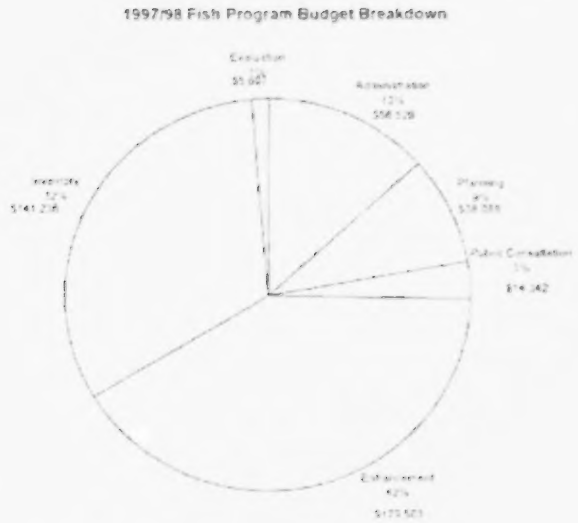
FINANCIAL SUMMARY

The Fisheries Program expenditures during the 1997/98 fiscal year totalled $436,994. Administrative costs were $58,526 (13.4%), Planning $38,088 (8.7%), Public Consultation $14,034 (3.2%), Inventory and Assessment $141,236 (32.3%) and Enhancements $179,503 (41.1%). In addition, $244,000 was received from Forest Renewal B.C. to support two Arctic grayling inventory projects.

Moneys expended within the six cost categories were somewhat different than originally budgeted (Table 1). Administration costs were higher because of additional work loads, and Planning costs were lower in part because Strategic Planning was not charged to the Fisheries Program. No Natureline was produced this year and no large stakeholder meetings were held and as a result Public Consultation costs were reduced. Inventory and assessment costs were higher than anticipated because of cost overruns on the Grayling Telemetry Project. Enhancement costs were lower that expected because of the cancellation of the Dinosaur Reservoir Aquatic Plant Transplant.

Table 1. Detailed budget expenditures for the 1997/98 fiscal.

COST CATEGORY	SPECIFIC PROJECT	PROJECT COSTS	TOTAL EXPENDED	% EXPENDED	% BUDGETED
Administration			58,526	13.4	10.2
Planning			38,088	8.7	14.8
Public Consultation			14,034	3.2	4.8
Inventory/ Assessment	Report Writing	15,804	141,236	32.3	27.9
	Table/ Anzac Arctic	14,703			
	Grayling	(142,000)			
	Grayling Radio Tracking	50,420			
		(100,000)			
	Grayling Genetics Study	35,902			
	Anzac Inventory	0			
	Stream Access Surveys	24,406			
	Mesilinka Inventory	0			
Enhancement	Project Maintenance	13,072	179,503	41.1	44.5
	Mesilinka Fertilization	82,589			
	Stocking & kokanee	16,619			
	Carbon Side Channel	20,889			
	Gething Bull Trout	20,182			
	Simpson Lake	7,646			
	Dina Lake #3	6,253			
	Mackenzie Schools	7,044			
	Dinosaur Lake Plants	0			
	Bullrun & Portage Cks	5,209			
Evaluation	Dinosaur Res Eval	2,319	5,607	1.3	1.8
	Windy Point	3,288			
Total			436,994		
Outside Funding	Arctic grayling Projects	242,000			
	Lake Inventory, Stream Video's, Mesilinka Inv	584,200			



OUTSIDE FUNDING

Forest Renewal B.C. provided $100,000 towards the Arctic Grayling Radio Telemetry Project and $144,000 towards the Table Anzac River Arctic Grayling Project. Other projects, which were initiated by the Compensation Program in Williston watershed, but were administered by Regional MOELP staff this year, include small lake surveys (29 surveyed, $145,000), stream video surveys ($399,000) and Mesilinka Watershed inventory ($40,000). Copies of the reports and videos are on file.

WILDLIFE PROGRAM

Mari D. Wood

PROGRAM ADMINISTRATION

Membership on the Steering Committee (SC) and Wildlife Technical Committee (WTC) remained the same as in the previous fiscal. Mari Wood and Fraser Corbould continued as the full-time wildlife biologists responsible for administering, managing, and conducting research and enhancement projects within the Wildlife Section of the PWFWCP. Administrative activities included preparation of the 1996/97 Annual Report (Wood 1997), tracking program expenditures, managing contracts, drafting Procedures and Administrative Agreement documents, preparing quarterly reports on program activities, preparing performance review plans, and updating staff safety training. Various consulting firms and contractors were employed to undertake work on a variety of wildlife projects. A co-operative education student was hired for a four month summer term to assist with field projects, data entry, and backlog report writing. The student was also employed for an additional three months during the winter to complete backlog reports.

PROGRAM PLANNING

One meeting and two conference calls were held with the WTC to discuss the current year's projects and finances, and prepare a budget for the 1998/99 Wildlife Program. Funding proposals were prepared and submitted to the Habitat Conservation Trust Fund and Forest Renewal B.C. for financial assistance with the Fisher Habitat Use, Ingenika Prescribed Burn, and Rocky Marsh Wetlands Enhancement Projects for 1998/99. Strategic-level planning for the PWFWCP was initiated by the SC, and included interviews with wildlife program staff and WTC members, a pre-planning meeting, and a two-day intensive workshop. Informal meetings were held with individuals, consultants, and stakeholder representatives, to discuss on-going and potential future projects.

PUBLIC CONSULTATION

A slide presentation on the Reservoir Raptor Project was delivered to the BC Federation of Ornithologists during their Annual General Meeting in Prince George. In addition, CKPG-TV produced a segment on the Reservoir Raptor Project that aired on the local news, and CBC radio also reported the story. Photos were updated and captions produced for the stand alone PWFWCP display, and the 98/99 Public Consultation Plan was drafted.

NatureLine No. 9 profiling fish and wildlife projects conducting in 96/97 and 97/98 was prepared at the end of the fiscal year. Information on the PWFWCP and specific wildlife projects was provided to the Prince George Citizen newspaper for inclusion in their annual fall Hunting Supplement, and to BCH Public Affairs for inclusion in the 1995/96 Environment Annual Report. Articles on the Mischinsinlika Foreshore Burning and Reservoir Raptor Projects also appeared in WattsNew, BC Hydro's internal daily news bulletin. The Wildlife Program and specific projects were discussed through informal meetings and talks with industry, club members, guide-outfitters, trappers, contractors, students and tourists. Detailed project information and technical reports was also discussed with and disseminated to numerous consultants, biologists, and researchers throughout western North America.

PROJECT SUMMARY

PROJECT	TYPE	LOCATION
PWFWCP PROJECTS:		
1. Neilson Lake Wildlife Viewing Sign	PC	Parsnip
2. Fisher Habitat Use Project	Inventory	Omineca
3. Omineca Mountains Caribou Project	Inventory	Omineca
4. Reservoir Raptor Project	Inventory	Reservoir watershed
5. Ingenika Prescribed Burn	Enhancement	Finlay
6. Rocky Marsh Wetland Enhancement	Enhancement	Parsnip
7. Donna Creek Forestry/Biodiversity Project	Monitoring	Omineca
8. Ingenika River Elk Transplant	Monitoring	Finlay
9. Backlog Report Writing	-	-
**CO-OPERATIVE PROJECTS:*		
10. Mackenzie Migratory Songbird Monitoring	Inventory/PC	Mackenzie
11. Anzac Moose Enhancement (Diversionary Feeding)	Enhancement	Parsnip

* "Co-operative Projects" are administered by other agencies. PWFWCP co-operates on these projects by contributing funding and/or technical expertise.

Abbreviations used for Agencies/Clubs:

BCE: B.C. Environment
CWS: Canadian Wildlife Service
DU: Ducks Unlimited
FFI: Finlay Forest Industries
FRBC: Forest Renewal B.C.
HCTF: Habitat Conservation Trust Fund
MFGC: Mackenzie Fish and Game Club
MOF: Ministry of Forests
PWFWCP: Peace/Williston Fish & Wildlife Compensation Program
SCWA: Spruce City Wildlife Association
SG: Slocan Group (formerly TimberWest)

Agencies/clubs that are partners on PWFWCP projects are listed in brackets [ ] at the end of each projects' objective.

Other Definitions;

GIS: Geographic Information System
GPS: Global Positioning System

PUBLIC AWARENESS PROJECTS

1. NEILSON LAKE WILDLIFE VIEWING SIGN

Objectives: To promote wildlife viewing, and to summarize and present the waterfowl and aquatic furbearer enhancement work completed by the PWFWCP and DU in the Neilson Lake wetland area (adjacent to Summit Lake). [PWFWCP, DU]

1997/98 (Yr 3 of 3): The sign and shelter developed and constructed in 1996/97 were installed at the site, and highway directional signs were erected along Highway 97.

INVENTORY/ASSESSMENT PROJECTS

2. FISHER HABITAT USE PROJECT

Objective: To obtain an understanding of fisher ecology and population dynamics in the sub-boreal forests that will lead to the design and implementation of future enhancement and protection activities. [PWFWCP, FRBC, BCE, SG, FFI]

1997/98 (Year 3 of 6): Additional funding was received from FRBC, and a contract for fieldwork and data analysis was awarded. Five additional fishers were captured and radio-collared over the winter. Aerial and ground monitoring of 13 radio-collared fisher were conducted throughout the year to determine movements and seasonal habitat use, and natal and maternal den sites were also investigated. A report on the 96/97 activities was prepared by contractor. Continued project funding from FRBC was pursued for the 1998/99 fiscal year.

3. OMINECA MOUNTAINS CARIBOU PROJECT

Objectives: To determine seasonal habitat use and movements of woodland caribou on the west side of the Williston Reservoir, and to protect caribou and caribou habitat through 1) input to BCE caribou management strategies, 2) input to the Mackenzie LRMP table, and 3) input to the Protected Areas initiative. [PWFWCP]

1997/98 (Year 7 of 7): GIS and statistical analyses of habitat data were completed by contract for both Phase 1 and 2 reports, and a contract for the completion of the Phase 2 report was awarded. Technical input was provided on the Caribou Management Areas and Strategies developed for the Fort St. James and Mackenzie LRMP's. Aerial tracking flights to determine location of collared caribou in preparation for detailed winter inventory were conducted. (The majority of caribou were located in forested habitats throughout winter, thus inventory was postponed until next fiscal.)

4. RESERVOIR RAPTOR PROJECT

Objectives: To determine the population status and nesting distribution of bald eagles and osprey around the Williston and Dinosaur Reservoirs and their major tributary systems, and to identify, design and implement enhancement projects if necessary. [PWFWCP]

1997/98 (Year 3 of 6): A contract for 1997 fieldwork and data analysis was awarded. Bald eagle and osprey clutch initiation, occupancy, and fledgling success surveys were conducted throughout the spring/summer breeding season. Inventory data were entered into a database, nest locations were mapped, and a draft report was prepared by a contractor. Eagle and osprey nest data from 1995 and 1997 surveys were provided to editors *of Birds of BC* reference manuals for inclusion in next editions.

ENHANCEMENT PROJECTS

5. INGENIKA PRESCRIBED BURN

Objectives: To enhance forage for ungulates and bears, and to provide foraging and breeding habitat for many wildlife species that require early successional stages. [PWFWCP, HCTF, BCE, MOF]

1997/98 (ongoing): The Ingenika burn was attempted in 1996/97 but was postponed due to unsuitable weather conditions. Planning meetings were held again with MoF and BCE, a site inspection was conducted in the spring, and pre-burn activities were conducted at the site. The burn was again postponed due to unsuitable burning conditions, and a proposal was re-submitted to HCTF for supportive funding in the 1998/99 fiscal.

6. ROCKY MARSH WETLAND ENHANCEMENT

Objectives: To enhance the Rocky Marsh wetland (near Mackenzie, BC) for waterfowl and aquatic furbearers by providing secure water levels and increasing waterfowl breeding and rearing habitat. [PWFWCP, DU, numerous community groups]

1997/98 (Yr 1 of 2): Planning for the enhancement of Rocky Marsh was initiated through multiple meetings with DU, the Mackenzie District council, and various Mackenzie community groups. An engineering crew was contracted through DU to survey the area and develop plans for a water control structure for the site. An HCTF proposal was submitted for supportive funding of scheduled 1998/99 activities.

MONITORING/EVALUATION PROJECTS

7. DONNA CREEK FORESTRY/BIODIVERSITY PROJECT

Objective: To develop and test alternative forest harvesting techniques designed to benefit cavity-dependent birds and mammals. [PWFWCP, HCTF, SG]

1997/98 (Yr 7 of 7): Reports on breeding bird surveys conducted in 1996/97 were drafted by contractors, reviewed, and revised. Study area maps including precise GPS locations of habitat features were drafted by contractors in 1996/97; the maps were reviewed and final edits completed in 1997/98.

8. INGENIKA RIVER ELK TRANSPLANT

Objective: To supplement the small existing herd of Rocky Mountain elk in the Ingenika River drainage and establish a viable population of elk in the area.

1997/98 (Yr 3 of 5): Six aerial tracking flights were conducted to monitor survival and dispersal of six radio-collared female elk. Ten females were collared initially: three died of natural causes in 1996/97, and one was last located north of Fort Ware. Mortality sites were investigated and collars were retrieved.

OTHER PROJECTS

9. BACKLOG REPORT WRITING

Objectives: To complete backlog of status and technical reports on previous wildlife research, inventory, enhancement, and monitoring projects.

1997/98 (ongoing): Nine backlog reports were drafted, and revisions were made to an additional three previously drafted reports.

CO-OPERATIVE PROJECTS*

* These projects are administered by other agencies. PWFWCP co-operates on these projects by contributing funding and/or technical expertise.

10. MACKENZIE MIGRATORY SONGBIRD MONITORING

Objectives: To determine the population status and trends of neotropical migratory songbird populations in the northern Rocky Mountain Trench, and to identify those species that may be at risk from habitat loss and degradation. This is a long-term initiative of the Canadian Wildlife Service to monitor trends of songbird populations throughout North America. [CWS, MFGC, SG, FFI, PWFWCP]

1997/98 (Yr 3 of ongoing): The banding station near Mackenzie was re-established, and a master bander was hired for the season. Birds were captured in mist-nets, banded, and released throughout the fall migration period (August/September). The master bander was assisted by volunteers from the Mackenzie Fish and Game Club on a regular basis. The PWFWCP provided funding support, and staff assistance with banding for a short period.

11. ANZAC MOOSE ENHANCEMENT (DIVERSIONARY FEEDING)

Objective: To enhance moose populations in the Parsnip drainage by diverting bear predation from newborn moose calves. [BCE, HCTF, SCWA, PWFWCP]

1997/98 (Yr 3 of 3): In spring, bait stations comprised of road-killed ungulates were established to divert predators away from moose calving areas. Radio-collared cow moose were monitored throughout the year to determine calf survival. Age/sex composition surveys were conducted in winter. Road and train-killed ungulates were collected again throughout the winter, and carcasses were kept frozen in freezer units for the next spring. The PWFWCP provided funding for the project.

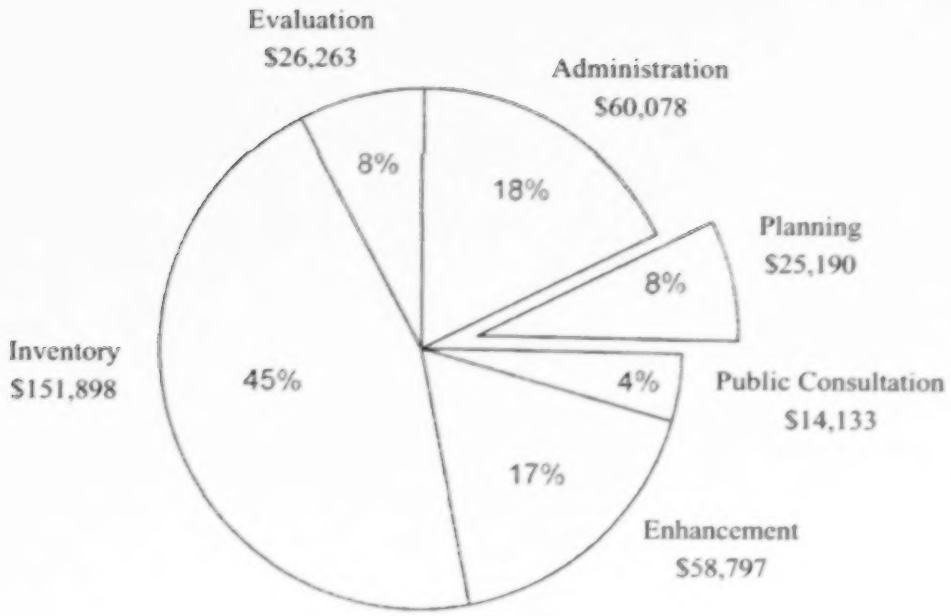
FINANCIAL SUMMARY

The annual budget for the Wildlife Program in 1997/98 was $370,000. Expenditures in the 1997/98 fiscal year amounted to $336,359 of which 70% ($236,958) was used to conduct wildlife research and enhancement projects, while 30% ($99,401) covered administrative, planning and public consultation costs (Table 1, Figure 1). The remaining dollars were carried over to fiscal 1998/99.

Table 1. Detailed budget expenditures for the 1997/98 fiscal.

COST CATEGORY	SPECIFIC PROJECT	PROJECT COSTS	TOTAL EXPENDED	% Expended	% Budgeted
Administration[1]			$60,078	18%	9%
Planning[2]			$25,190	8%	8%
Public Consultation	Base Costs[3]	$10,853			
	Neilson Lake Viewing Sign	$3,280	$14,133	4%	7%
Inventory/ Assessment	Fisher Habitat Use Project	$37,831			
	Omineca Mtns Caribou Project	$14,400			
	Reservoir Raptor Project	$76,471			
	Co-op: Mackenzie Migratory Bird	$9,203			
	Other[4]	$13,993	$151,898	45%	49%
Enhancement/ Protection	Winter Range Prescribed Burning	$18,114			
	Rocky Marsh Wetlands Enhancement	$13,196			
	Co-op: Anzac Moose Enhance	$15,162			
	Other4	$12,325	$58,797	17%	20%
Evaluation/ Monitoring	Ingenika Elk Transplant Monitoring	$8,664			
	Donna Creek Forestry/Biodiversity	$9,607			
	Other[4]	$7,992	$26,263	8%	7%
TOTAL			$336,359	100%	100%

1. Administration: staff wages, office rent, BCE administrative support, office supplies, vehicle costs.
2. Planning: staff wages & travel, Technical Committee travel, vehicle costs.
3. Public Consultation: staff wages & travel, *NatureLine* production, supplies, services, vehicle costs.
4. Other: backlog report writing, previous fiscal projects, input to protection/management activities.



Monies expended on individual tasks or projects varied from that originally budgeted in some cases. Following are explanations of the variances for specific projects:

TASK	FINAL COSTS*	VARIANCE EXPLANATION
Administration	+	Administrative workload significantly increased, including performance planning, admin. procedures, program staffing, computer updating, office reorg., and safety and administrative training courses.
Public Consultation	-	Stakeholder workshops postponed until Strategic Plan completed.
Neilson Lake Viewing	-	Monies for construction/erection of signs paid in previous fiscal.
Fisher Habitat Use		Cost savings achieved through joint efforts with Wolverine project, fewer fishers caught than expected (less monitoring), ATV not purchased.
Omineca Caribou	-	Decision to complete reports by contractor resulted in significant decrease in staff time for report writing, winter inventory postponed due to snow and survey conditions.
Reservoir Raptor	+	HCTF funding not received therefore monies were re-allocated from two cancelled projects (Muskwa Ungulate Inventory and Winter Range Burning).
Muskwa Ungulate Survey	-	Project cancelled to fund higher priority Reservoir Raptor Project.
Ingenika Burn	-	Burn cancelled due to weather conditions; funds re-allocated to Reservoir Raptor Project.
Donna Cr. Forestry	-	Final Project Report postponed pending completion of two breeding bird survey reports by contractor.

* - $$ Expended < $$ Budgeted + $$ Expended > $$ Budgeted